

interruptante luteo-ochreis, ad basim flavescens: posticæ macula luteo-ochrea subquadrata subapicali, a venis tripartita; fascia valde irregulari submarginali coccinea apud apicem attenuata: corpus nigerrimum; collo flavo fasciato; abdomine flavo fasciolato, fasciis regularibus in medio et ad latera interruptis; antennis palpisque nigris.

Alæ subtus nigerrimæ; anticæ macula discoidea apud cellæ finem, altera disco-cellulari, ovalibus, tertia triangulari subanali, striola apud marginem apicalem, punctoque basali, omnibus coccineis; macula submedia costali triangulari luteo-ochrea; fascia velut supra irregulari sed tripartita; punctis tribus submarginalibus apicalibus cinereis: posticæ puncto basali coccineo, aliter velut supra: corpus nigerrimum; pedes postici tarsis albido fasciolatis; segmentis abdominalibus minime flavo marginatis; ano flavo.

Exp. alar. unc. $2\frac{1}{2}$.

Hab. Bahia. Possidet T. W. Wood.

Most closely allied to *sacrifica*, but quite distinct; it does not show any pectinations to the antennæ, and the hind wings are proportionally larger than in *conferta*. This species has been kindly lent to me by my very obliging friend Mr. T. W. Wood.

XXVII.—*Notes on the Skulls of Hares (Leporidae) and Picas (Lagomyidae) in the British Museum.* By Dr. J. E. GRAY, F.R.S.

HAVING had occasion to examine the skulls of hares in the British Museum, I have made the following notes.

It has been usual to unite the Leporidae and Lagomyidae into one family; but the entire form of the skull forbids such a union, and I follow Professor Lilljeborg in regarding them as belonging to two distinct groups of the suborder Duplicidentata of Illiger.

Dr. Spencer Baird, in his excellent essay on the Hare of North America, has shown how the hares of that country might be divided into natural sections; and I have verified the accuracy of this from the skulls contained in the British Museum, and have added one or two groups for skulls which did not come under his observation.

The determination that the hare of the Holy Land is distinct from the common European hare is interesting. It is more allied to the hare of Tunis and the southern shore of the Mediterranean, and it may be only a large variety of that species; but there are several characters in the skull that make it probably a distinct kind.

Suborder II. DUPLICIDENTATA, Illiger.

Cutting-teeth $\frac{4}{4}$; upper with a deep angular central groove; molars rootless, $\frac{6}{5} \cdot \frac{6}{5}$ or $\frac{5}{5} \cdot \frac{5}{5}$. Skull with the two optic foramina united.

Fam. 1. Lagomyidæ = *Lagomys*, F. Cuvier.

Tail none visible; ears short, rounded; hind legs short; toe-pads naked, small. Skull depressed, expanded behind. Maxilla with a large perforation in front of orbit. Grinders $\frac{5}{5} \cdot \frac{5}{5}$, the upper hinder with a small third lamina on the hinder side; the front grinders shelving backwards.

1. Ogotoma. Skull: the orbits very large; space between the orbits narrow; nose narrow, bent down.

Ogotoma Pallasii. (*Lagomys ogotoma*, Cuvier, Waterh. Glir. 17. *Lepus ogotoma*, Pallas, Glires, 30, t. 3, 4 A. f. 16 a.) B.M.

2. LAGOMYS. Skull: the orbits large; space between the orbits broad and flat; nose broad, shelving, nearly in a line with the forehead.

Asia.

1. *Lagomys alpinus*, Cuvier, Waterh. Glir. 15, fig. (*Lepus alpinus*, Pallas, Glires, 30, t. 2, t. 4 A. f. 13 a, b). Siberia. B.M.

2. *Lagomys pusillus*, Desm., Waterh. Gl. 19. (*Lepus pusillus*, Pallas, Glires, 30, t. 1, t. 4. f. 4, 9). South Siberia; Ural. B.M.

3. *Lagomys rufescens*, Gray, Ann. & Mag. Nat. Hist. 1842, p. 266; Waterh. Gl. 20. Cabul. B.M.

4. *Lagomys Hodgsoni*, Blyth, J. A. S. B. 1841, x. 816, t.; Waterh. Gl. 23. Ladakh.

5. *Lagomys nepalensis*, Hodgson, J. A. S. B. 1841, x. 854, t.; Waterh. Gl. 24. Thibet? Nepal. B.M.

6. *Lagomys Roylii*, Ogilby, Royle, Himal. t. 4; Waterh. Gl. 26. Choor Mountains.

7. *Lagomys hyperboreus*, Wagner, Waterh. Gl. 36. (*Lepus hyperboreus*, Pallas.) North-east Siberia.

America.

8. *Lagomys princeps*, Richards. F. B.-A. 227, t. 19; Waterh. Gl. 28; Baird, N. A. M. 619; Aud. N. A. Q. t. 83 (skin). Rocky Mountains. B.M.

9. *Lagomys minimus*, Lord, P. Z. S. 1863, p. 98. North-west coast of America. B.M.

Fam. 2. Leporidæ, J. Gray (Lilljeb. 59).

Ears large, elongate, often longer than the head. Tail short, bushy; the hind legs much longer than the fore legs,

strong. Skull high, more or less compressed; the nose arched; maxillæ netted in front of the orbits. Cutting-teeth (upper) with a subcentral groove; molars $\frac{6}{5} \cdot \frac{6}{5}$, each formed of two plates united by enamel, except the upper hinder one, which is small and formed of only one plate. The upper hinder grinder is like the third plate in the former family; but it is distinct, forming a separate tooth.

Section I. *Skull high, rather compressed. Nose compressed; cheeks nearly flat, separated from the orbits by a strong ridge, and edged above by the prominent upper hinder elongated process of the intermaxillaries. Orbits large, roundish. Cutting-teeth moderate.*

A. HARES. *The hinder nasal aperture of skull broad, deep, rounded above, and with nearly erect sides. Young born with the eyes open and the body covered with hair. Living in "forms" on the surface of the earth.*

I. *Postorbital process more or less soldered with the skull.*

1. HYDROLAGUS. *Lepus* ♂ F, Baird, N. A. M. 575. Feet very short, weak, covered with scattered hairs, exposing the toes; claws acute. Skull and incisors comparatively large and massive; muzzle about as wide as high. Postorbital process completely fused into the skull for its entire length, leaving neither foraminal notch nor suture. "Water-Hare."

* *Tail elongate, white beneath.*

1. *Hydrolagus aquaticus*. (*Lepus aquaticus*, Bachm. J. A. N. S. Philad. vii. 319, t. 22. f. 2; Baird, N. A. M. 612, t. 59. f. 1 (skull). *L. Douglasii*, var. 1, Gray, Mag. N. H. 1837, p. 586.)

** *Tail very short, dusky beneath.*

2. *Hydrolagus palustris*. (*Lepus palustris*, Bachm. l. c. t. 25, 26; Baird, N. A. M. 615, t. 59. f. 2 (skull). *L. Douglasii*, var. 2, Gray, Mag. N. H. 1837, p. 586.)

2. SYLVILAGUS. *Lepus* ♂ D, Baird, N. A. M. 575. Skull about twice as long as wide, very convex and much arched behind; muzzle rather wider than high. Postorbital process moderate, united behind and laterally by ankylosis with the skull, with a distinct suture bounding a small narrow foramen in front. Cutting-teeth narrow. Hind feet nearly as long as the head. Burrows for protection (*Clark*).

* *Soles very densely furred.*

1. *Sylvilagus nanus*. (*Lepus nanus*, Schreb. t. 234 B; Dekay. *L. americanus*, Desm. *Lepus sylvaticus*, Bachm., Waterh. Gl. 116; Aud. N. A. Q. t. 22; Baird, N. A. M. 600, t. 58. f. 1 (skull).) Grey Rabbit. B.M.

2. *Sylvilagus Artemisia*, Bachm., Waterh. Gl. 126; Baird, N. A. M. 602. (*L. artemisianus*, Wagner. ? *L. Nuttalli*, Bach., Aud. N. A. Q. t. 94.) Sage Rabbit. New Mexico. B.M.

** Soles of feet very sparsely furred.

3. *Sylvilagus Bachmanni*. (*Lepus Bachmanni*, Waterh. P. Z. S. 1838, p. 103; Glir. 124; Aud. N. A. Q. t. 108; Baird, N. A. M. 606.)

3. EULAGOS. Skull rather elongated; face broad, rounded above; the intermaxillary bones form a ridge on each side; anterior orbital notch narrow; postorbital aperture oblong, elongate, narrow, behind complete from the coalescence of the hinder end of the postorbital process with the skull. Grinders $\frac{6}{5}$, the hinder upper grinder very small and very close to the penultimate, which has caused it to be overlooked.

1. *Eulagos mediterraneus*. (*Lepus mediterraneus*, Wagner, Waterhouse, Glires, 48. *L. meridionalis*, Gén . *L. granatensis*, Schimper. *L. timidus*, var. *c*, Blasius, S ugeth. Deutschl. 412.) Tunis, Fraser. B.M.

Mr. Waterhouse overlooked the hinder upper grinder; and Blasius confounded this very distinct species with *L. timidus*.

Length of skull 3 inches 3 lines, width at zygomata 1 inch 5 lines, of nose in front of orbit 9 lines. The upper edge of the orbits narrow, ascending.

2. *Eulagos Jud a*. The Holy Land *Buneas*, Tristram, B.M. The skull is much larger than that of *E. mediterraneus*, nearly as large as that of the common hare, *Lepus timidus*. Length of skull 3 inches 10 lines, width at zygomata 1 inch 9 lines, at front of orbits 1 inch. The upper edge of the orbits wide, expanded, forming a concave hood.

II. Postorbital process separate from the skull.

4. LEPUS, Linn. *Lepus* §§ A & E, Baird, N. A. M. 575. Skull narrow, slightly curved above; face margined by the upper edge of the intermaxillaries. The front lower edge of the zygoma swollen, rounded, solid. Postorbital process very large, the hinder part nearly parallel with the skull, but separated from it by a slit. Grinders $\frac{6}{5} \cdot \frac{6}{5}$, hinder upper very small; cutting-teeth narrow, upper with a central groove. Born covered with hair, and the eyes open. Lives on the surface or behind stones.

European.

1. *Lepus timidus*, Linn., Waterh. Gl. 39. (*L. europ us*, Pallas.) Europe. B.M.

2. *Lepus hybridus*, Desm., Waterh. Gl. 45. (*L. medius*, Nils-

son. *L. aquilonius*, Blasius. *L. altaicus*, Eversm. *L. russata*, F. Cuv.) Russia. Mus. Leyden.

3. *Lepus variabilis*, Pallas, Schreb. t. 235 A, B; Waterh. Gl. 51. (*L. borealis*, Nilsson. *L. albus*, Brisson, Jenyns. *L. hibernicus*, Bell, B. Q.) Scotland, Ireland, North Europe. B.M.

4. *Lepus canescens*, Nilsson, i. 172; Waterh. Gl. 57. (*L. borealis*, var., Nilsson, Illum. t. 22.) Scandinavia. B.M.

African.

5. *Lepus aegyptius*, Geoffr. Desc. Egypt. t. 6. f. 2; Waterh. Gl. 65. Egypt. North Africa.

6. *Lepus habessinicus*, Hemp. & Ehr. S. P. t. 15. f. 2. Abyssinia.

7. *Lepus isabellinus*, Rüppell, Atlas, t. 20; Waterh. Gl. 88. (*L. aethiopicus*, Hemp. & Ehr. S. P. t. 13.) Nubia. B.M.

8. *Lepus capensis*, Linn., Waterh. Gl. 95. (*L. ochropus*, A. Wagner. *L. arenarius*, I. Geoff.) South Africa.

9. *Lepus saxatilis*, F. Cuv., Waterh. Gl. 92, t. 1. f. 1. (*L. rufinucha*, A. Smith. *L. longicaudatus*, Gray. *L. fumigatus*, Wagner.) Berg Haas, South Africa. B.M.

10. *Lepus crassicaudatus*, I. Geoff. Mag. Zool. 1832, t. 19; Waterh. Gl. 99. (*L. rupestris*, A. Smith. *L. melanurus*, Rüppell.) Roode Haas, South Africa, Natal.

Asiatic.

11. *Lepus arabicus*, Hemp. & Ehr. S. P. t. ; Waterh. Gl. 84. Arabia.

12. *Lepus syriacus*, Hemp. & Ehr. S. P. t. 14. f. 2; Waterh. Gl. 81. Syria.

13. *Lepus sinaiticus*, Hemp. & Ehr. S. P. t. 14. f. 1; Waterh. Gl. 83. Arabia Petraea.

14. *Lepus nigricollis*, F. Cuv. Mamm. t. ; Waterh. Gl. 72. (*L. melanauchen*, Temm. *L. kurgosa*, Gray. *L. hurgosa*, Buch. Ham.) Malabar. B.M.

15. *Lepus ruficaudatus*, I. Geoff., Waterh. Gl. 74. (*L. macrotus*, Hodgson.) Bengal. B.M.

16. *Lepus tolai*, Pallas, Gl. 30; Waterh. Gl. 48. (*L. dauricus*, Erxl.) Mongolia. B.M.

17. *Lepus tibetanus*, Waterh. P. Z. S. 1841, p. 7; Gl. 58. (*L. oiostolus*, Hodgson, Waterh. Gl. 61.) Tibet.

18. *Lepus pallipes*, Hodgson, J. A. S. B. xi. 288, t.; Waterh. Gl. 62. Tibet.

19. *Lepus brachyurus*, Temm. F. Japon. t. 11; Waterh. Gl. 69. Japan. B.M.

20. *Lepus sinensis*, Gray, Ill. I. Z. t.; Waterh. Gl. 90; Swinhoe, P. Z. S. 1862, p. 359. Formosa, China. B.M.

21. *Lepus altaicus*, Brandt. Altai. B.M.

American.

† *Hind feet considerably longer than the head.*

* *Changing colour in winter; postorbital widely divergent.*

22. *Lepus arcticus*, Leach, Ross's Voy. Append. 2. 151, 1819. (*L. glacialis*, Leach, l. c. 170, 1819; Audub. N. A. Q. t. 32; Baird, N. A. M. 577, t. 56. f. 1 (skull); Waterh. Gl. 102. *L. timidus*, O. Fab.)

23. *Lepus americanus*, Erxl., Waterh. Gl. 108; Baird, N. A. M. 579. (*L. hudsonius*, Pallas. *L. nanus*, Schreb. *L. virginianus*, Harlan. *L. borealis*, Schinz.) B.M.

24. *Lepus Washingtonii*, Baird, 1855, N. A. M. 583, t. 15.

25. *Lepus campestris*, Bachm., Baird, N. A. M. 585, t. 56. f. 2 (skull); Waterh. Gl. 127. (*L. Townsendii*, Bachm., Aud. N. A. Q. t. 3. *L. virginianus*, Rich.) Prairie Hare. Missouri River, Columbia.

** *Not changing colour in winter; postorbital diverging, but in contact behind.*

26. *Lepus caltotis*, Wagner, 1830; Baird, N. A. M. 590, t. 57. f. 2 (skull); Audub. N. A. Q. t. 63; Waterh. Gl. 138. (*L. nigricaudata*, Bennett. *L. flavigularis*, Wagner. *L. texianus*, Waterh. Gl. 136.) Sonora.

27. *Lepus californicus*, Gray, Mag. N. H. 1837, p. 586; Waterh. Gl. 171; Audub. N. A. Q. t. 112; Baird, N. A. M. t. 57. f. 1 (skull). (*L. Richardsonii*, Bachm.? *L. Bennetti*, Gray, Voy. Sulph. t. 14.) California. B.M.

28. ?*Lepus longicaudatus*, Gray, Mag. N. H. 1836, p. 586. Magellan's Straits.

†† *Hind feet apparently shorter than the head; postorbital process scarcely in contact with the cranium behind; ears as long as or longer than the head.*

29. *Lepus Audubonii*, Baird, N. A. M. 608, t. 13, 58. f. 2 (skull). Coast of California.

30. *Lepus Troubridgii*, Baird, N. A. M. 610, t. 14. California.

5. TAPETI. Skull like *Lepus*, but the hinder supraorbital notch narrow, the lobes short, with a sharp inner edge; the front of the lower edge of the zygoma dilated, sharp-edged, porous above; hinder nasal opening rather narrower. Tail none. Ears short.

1. *Tapeti brasiliensis*. (*Lepus brasiliensis*, Linn. *L. tapeti*, Pallas.) Para and Bolivia. B.M.

B. RABBITS. Skull: the hinder nasal aperture narrow, deep, angular, contracted above, with sloping sides. Living in burrows; young born blind and naked.

6. CUNICULUS. *Lepus* § C, Baird, N. A. M. 575. Skull:

hinder supraorbital notch narrow, elongate, contracted behind by the inflection of the sharp tips of the lobes; upper edge of orbits narrow; the hinder nasal opening narrow, very deep; sides flat, contracted at the top; lower front edge of the zygoma rather dilated, solid. Hind legs short.

“Skull more than twice as long as wide; muzzle and nasal bones very long, the former wider than high, anterior to the molars. Postorbital processes divergent, not in contact behind with the skull.” (*Baird.*)

1. *Cuniculus fodiens*, Klein. (*Lepus cuniculus*, Linn., Waterh. Glir. 64. *L. magellanicus*, Lesson; Blasius, Faun. Deut. (fig. of skull). *L. vermicula*, Thompson.) Europe, North Africa. B.M.
 Var. *Lepus nigripes*, Bartlett, P. Z. S. 1857, p. 159, t. 56.

Section II. *Skull conical, subcylindrical; nose thick, subcylindrical; cheeks very convex; the front edge of the orbits and the upper hinder processes of the intermaxillaries scarcely raised. Orbits moderate, oblong. Cutting-teeth large, strong; the hinder upper orbital notch open, short; the zygomatic arches broad, flat, and produced behind, over the temple.*

7. CARPOLAGUS, Blyth, J. A. S. Beng. 1845, p. 247. Ears shorter than the head; fur harsh. Skull solid; face broad, rounded on the sides; upper edge of the intermaxillaries thin, even with the nasals. Cutting-teeth very broad; grinders broad; palate long and broad. Anteorbital foramina nearly closed by oblique, transverse, bony spicules. Zygomata very long. Supra-orbital processes continued forward uninterrupted; anterior notch quite filled up with bone, hinder less deep.

Carpolagus hispidus, Blyth. (*Lepus hispidus*, Pearson, Waterh. Gl. 78.) Burrows? Assam. B.M.

XXVIII.—*Descriptions of two new Saurians from Mossamedes (West Africa).* By J. V. BARBOZA DU BOCAGE.

Scapateira (?) reticulata.

Characters.—Head narrow, with the muzzle elongated and pointed. No occipital shield. Nostrils situated in the midst of three slightly inflated shields—one naso-rostral and two nasofrenals. No teeth on the palate; tongue emarginate at apex, covered with imbricated squamiform papillæ. Inferior eyelid granular. Palpebral disk bordered with granules without and behind, and preceded by a large shield placed between two very small ones. Subocular shield situated between the seventh and